CHAPTER 5:APPENDIX

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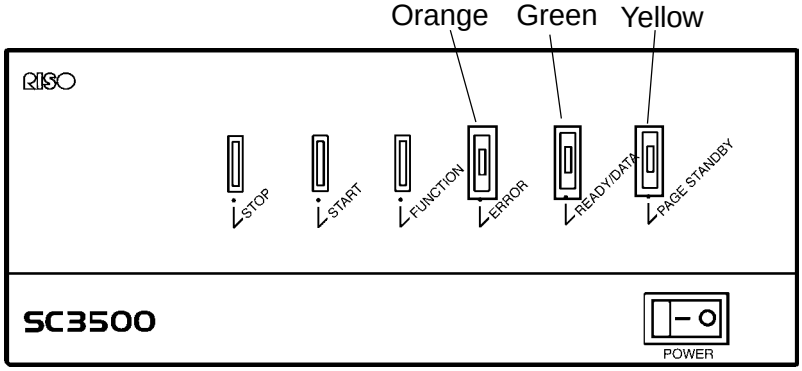
1. Description of LED Display

These three LEDs indicates the current status of SC3500 and Risograph.

ERROR : This LED indicates error on the Risograph.
READY/DATA : This LED indicates the data receiving condition from the computer.
PAGE STANDBY : This LED indicates the completion of 1 page data processing. Also this LED indicates that the unit is in stand by mode waiting for the next command.

LED / STATUS	ERROR (Orange)	READY/DATA (Green)	PAGE STANDBY (Yellow)
Right after the Power turned ON	ON	ON	ON
Ready for operation (Waiting for the data)	OFF	ON	OFF
Data processing in prgress (Receiving the data)	OFF	Flashing (Fast)	OFF
Data processing in progress (No data receiving)	OFF	Flashing (Slow)	OFF
Page data completed	—	—	ON
No error on Risograph	OFF	—	—
An error on Risograph (Jam error, Service call, etc.)	ON	—	—
An error on Risograph (No power, Time limit over error)	Flashing	—	—
Waiting for next operation command	OFF	—	Flashing

— : Depends on each conditions



(sc35front)

2. Description of Panel Button

Use 3 buttons to operate the SC3500 and Risograph.

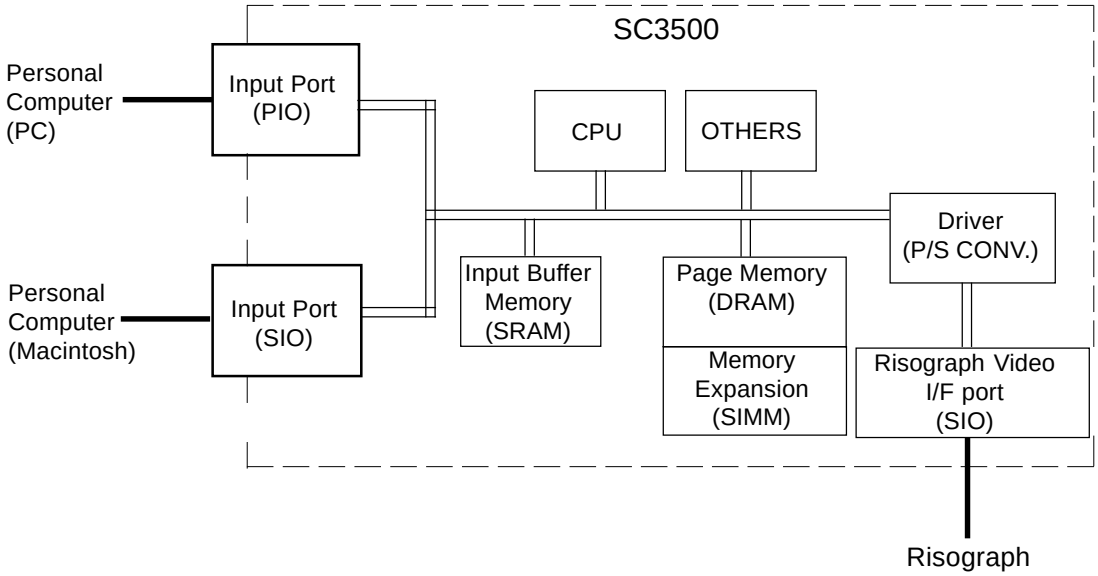
STOP BUTTON : Pressed to stop the print job or to start the Master-making of the next page.
START BUTTON : Pressed to start the print job or to continue a suspended job.
FUNCTION BUTTON : Pressed to redo the Master-making of the current page.

BUTTON / STATUS	STOP Button	START Button	FUNCTION Button	FUNCTION +STOP Buttons
Power turned ON with the button pressed		Executes a Test Print		Enters in to program transfer mode
During the Idle condition	Indicates a binary number of the allocated page quantity by the selected paper size on the Main PCB LED (*1)	Indicates the binary number of the page memory size(MB) on the Main PCB LED. (*2)	Push after release. Lights off all LED's on the Main PCB	
Stand by mode after first print when Auto Print off mode	Starts Master-making of the next page	Starts the printing (*3)	Re-starts the Master-making of the current page	
During Master-making	If the Auto Print is active, the Risograph stops after the completion of the Master-making and goes into stand by mode. (Ref. #1 below)			
During Printing	Stops the printing and goes into stand by mode (Ref.#2 below)			
Stand by mode after the Risograph stops during the Master-making (#1)	Starts Master-making of the next page	Starts the printing (*3)	Re-starts the Master-making of the current page	
Stand by mode after the Risograph stops during the printing (#2)	Starts Master-making of the next page	Re-starts the printing (*3)		
Stand by mode after the error during the Master-making	Starts Master-making of the next page	Re-starts the Master-making of the current page		
Stand by mode after the error during the printing	Starts Master-making of the next page	Re-starts the printing (*3)		

(*1) : SC3500 has 8MB page memory installed as standard and will be able to process one A3 size page(600dpi) data.
(*2) : 8MB Standard, Maximum 40MB page memory with 32MB expansion RAM.
(*3) : Same as pressing I/F button on the Risograph panel.

3. Inside Constraction

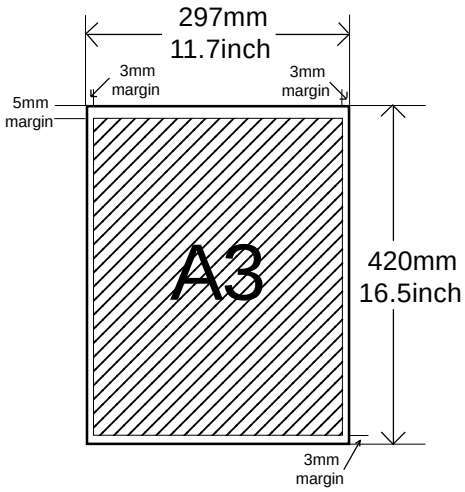
The input port of the SC3500 receives the data which has been sent from a Personal Computer. Then the data is stored in the input buffer.
At the same time, the SC3500 does the command analysis of the message data.
And develops a data of 1 page share in the page memory(Bit map memory) according to a command.
After the data development, Risograph checks whether the Master-making is in a possible state by the two way communication of the Risograph Video I/F port. SC3500 then outputs bit map data, and starts the Master-making on the Risograph.



PIO	:	Parallel Input/Output
SIO	:	Serial Input/Output
SRAM	:	Static Ram
DRAM	:	Dynamic Random Access Memory
SIMM	:	Single In-Line Memory Module
P/S CONV.	:	Parallel/Serial Converter

4. Theory of Data Processing

The SC3500 is equiped standard with a 8MB RAM as a Page data memory, which can be expanded to maximum 40MB.
8MB RAM will be able to process one A3 size page (600dpi).



A full A3 size 600dpi image equals to 67,068,000 dots(bit).

Which is equal to
(11.5inch X 600dpi) X (16.2inch X 600dpi) = 67,068,000
[No count for the area of margin]

Since
8 bit = 1 byte,

67,068,000 bit / 8 / 1,024= 8,187kbyte / 1,024 = 7.99MB

If A4 (600dpi) is selected as the paper size, the A4 (600dpi) size area is half that of the A3 (600dpi) size, so two A4 (600dpi) pages can be processed in one operation.
Which means, "Two allocated pages".
If A5 (600dpi) is selected as the paper size, the allocate pages are four.

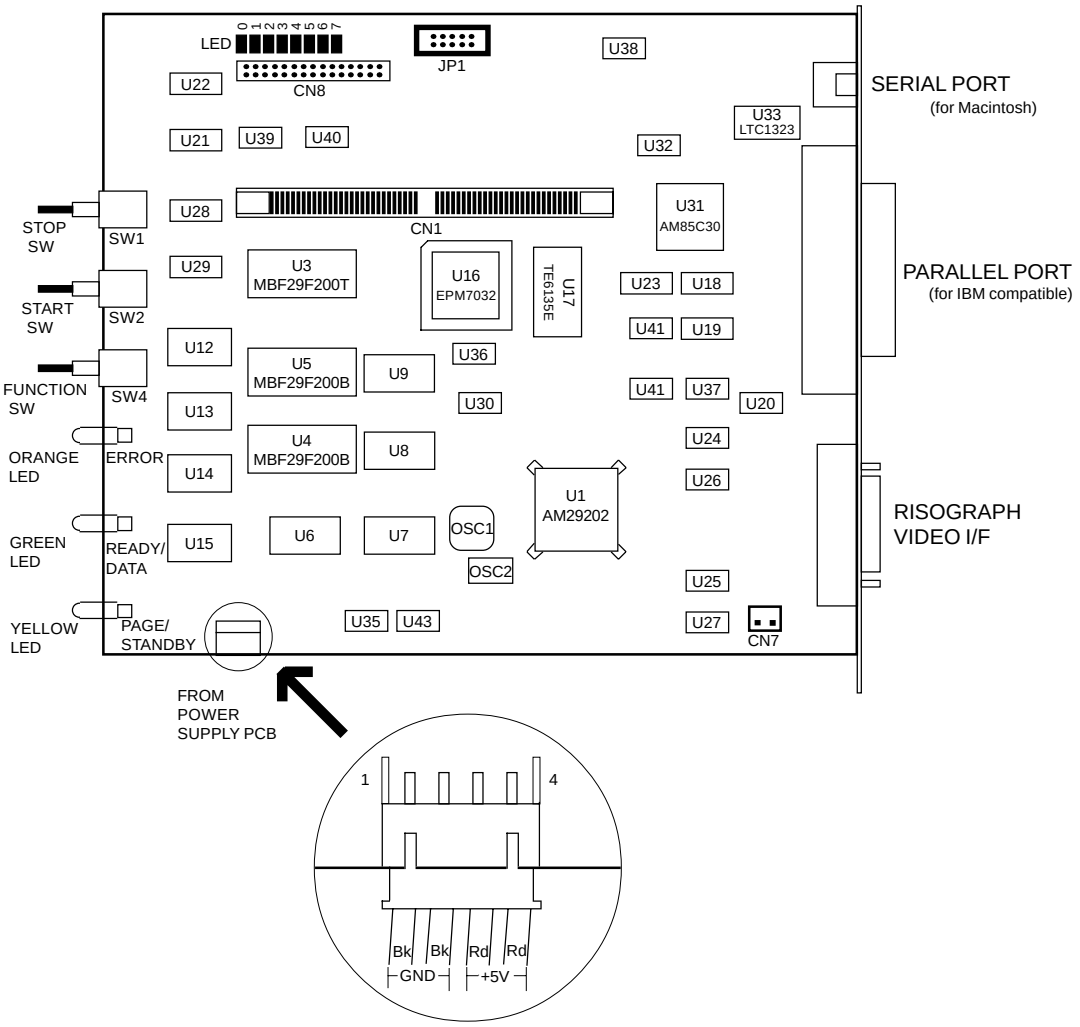
The page memory data is processed within SC3500 when the data is first sent to SC3500 from the Print Manager of the Computer.
(The paper size information is the first data on the data transmitted, the allocated page quantity is the first item to be processed.)
The Master-making on the Risograph starts when the data processing for one page is completed. At the same time, the data processing of the second page will start if the allocated page quantity is two or more.
If the allocated page quantity is one, the data processing of the second page will not start until the Master-making is completed and the printing starts and the page memory is cleared.

Therefore, the smaller the paper size, or larger the memory(RAM) size, the faster the data transfer is from the computer to SC3500, and will be an advantage if the page data file is in several pages.

Since SC3500 does not start processing the next file until the Master-making and printing of the present file is completed, even though a print command is given for two or more files and the first file is not using the full allocated page memory.

5. SC3500 Main PCB

PCB OVERVIEW



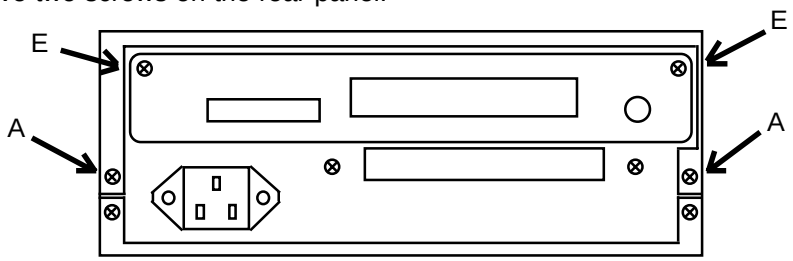
FUNCTION OF MAIN COMPONENTS

Circuit ID No.	Part Name		Function
U1	AM29202 32bitRISC	CPU	Central Processing Unit
U3	MBF29F200	ROM(Flash)	Storing Program
U4,U5	MBF29F200	ROM(Flash)	Storing program and Setting for default mode
U6,U7,U8,U9	N341024SJ	RAM(SRAM)	Working Memory
U12,U13,U14,U15	M417800	RAM(DRAM)	Frame Memory
U31	AM85C30	SI02	MAC (Serial/LocalTalk)
U17	TE6135E	PI01	IEEE 1284 Bi-Centronics compatible
U21	74HCT273		For Panel LED's
U22	74HCT273		For Version indicator LED's
U38	LS19		For Panel SW's
CN1		for SIMM	A Slot for RAM expansion(32MB)

6. How to remove the Main PCB

A. Remove Upper Case

A-1. Remove two screws on the rear panel.

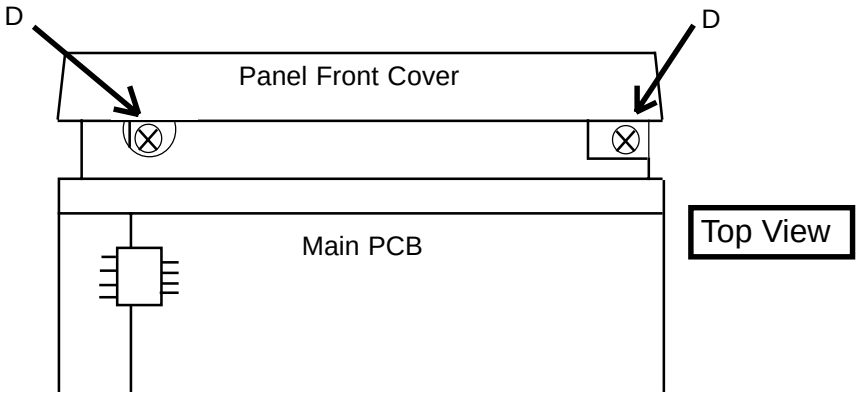


A-2. Push off the Upper Case by a little aback, and take it off while lifting it aloft.

B. Disconnect the Connector of the Wire-Harness;Main-Power

C. Disconnect the Connector of the Cooling Fan.

D. Remove two screws located on the front side of the Main PCB.



E. Remove two screws located on the Back Plate.

F. Pull the Main PCB from the unit.

Please pay attention not to damage components on the PCB during this procedure.

7. SC3500 Parts List

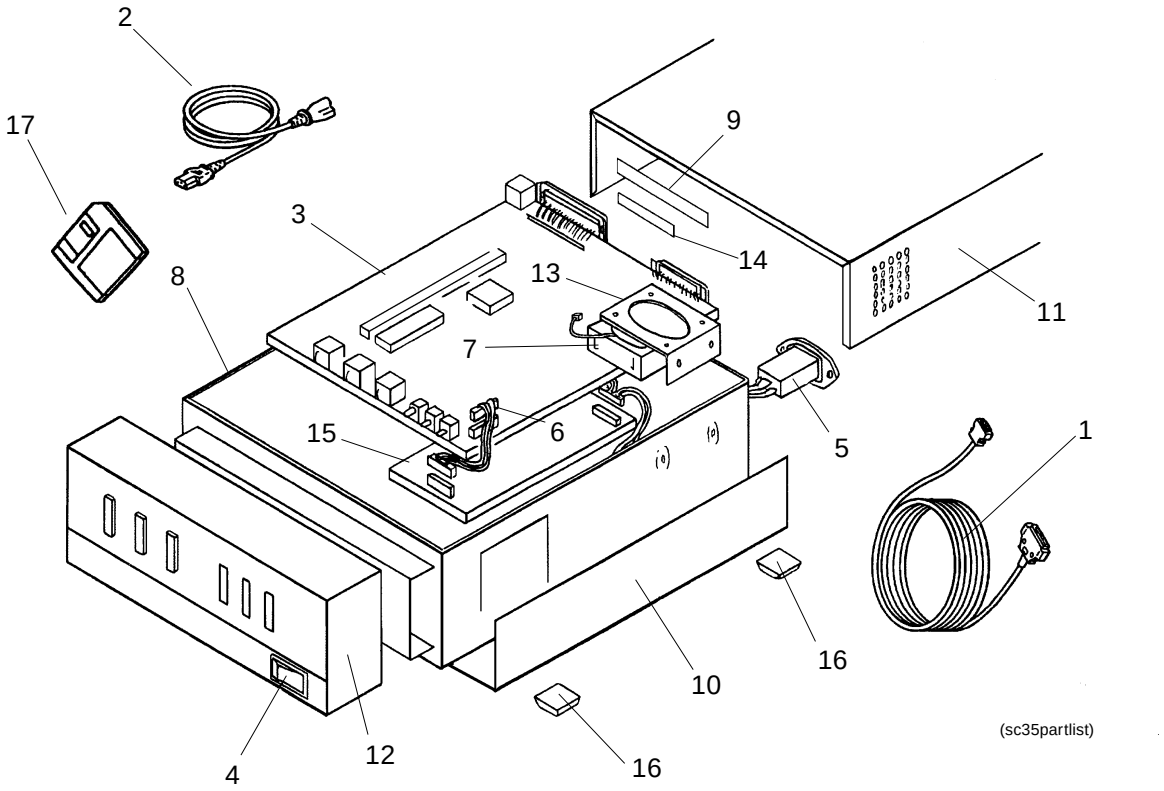


Fig.	Part No.		Part Name	SC3000 Compatibility
1	101-55000-002	1	SCII Cable(Video Cable); 10m	Yes
2	488-00014-100	1	Power Cord;US	Yes
2	488-00015-106	1	Power Cord;EU	Yes
3	101-51014-009	1	Main PCB;SC3500	New for SC3500
4	101-55010-008	1	Power Switch w/Wire-Harness	Yes
5	101-55011-101	1	Inlet Terminal w/Wire-Harnwss	Yes
6	101-55005-101	1	Wire-Harness;Main-Power	Yes
7	101-55006-108	1	Cooling Fan	Yes
8	101-18001-104	1	Chassis	Yes
9	101-18002-003	1	Back Plate	Yes
10	101-18003-107	1	Lower Case	Yes
11	101-18004-006	1	Upper Case	Yes
12	101-18016-004	1	Panel Front Cover; SC3500	New for SC3500
13	101-18008-109	1	Bracket;Cooling Fan	Yes
14	101-18009-008	1	Blind Plate	Yes
15	101-51001-004	1	Power Supply PCB;SC3000	Yes
16	101-18010-006	4	Rubber Foot	Yes
17	101-80043-000	1	SC3500 Printer Driver;Win3.1(V.2.00)	New for SC3500
17	101-80044-006	1	SC3500 Printer Driver;Win95(V.2.00)	New for SC3500
17	101-80045-002	1	SC3500 Printer Driver;WinNT4.0(V.2.00)	New for SC3500
17	101-80046-009	1	SC3500 Printer Driver;Mac QD (V2.00)	New for SC3500
	101-51015-005		32MB SIMM RAM	(*)New for SC3500

(*)- 32MB SIMM RAM can be used only for SC3500, can not use for SC3000.

8. Test Print

The SC3500 then forwards the internally equipped image data to Risograph directly, and does the Master-making and Printing.
When an error occurs, we can judge from this Test Print whether or not the Risograph is in a normal condition.
If the test prints come out correctly, the Risograph is in a good condition.
The Test Print image is in A4 size (400x400dpi resolution).

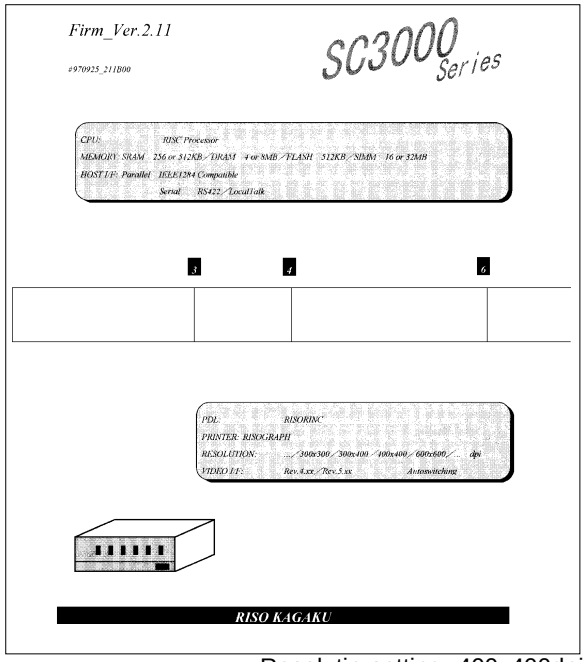
Procedures for the Test Print

1) Confirm the connection between the SC3500 and Risograph, and then turn ON the Risograph.

2) Pressing the "START" key of the SC3500, turn ON the power of the SC3500, and keep the "START" key pressed until the Orange and Yellow LEDs goes off.

3) The Green LED lights up while the Test Print image data within the SC3500 is being processed.

4) The Yellow LED lights up when the Test Print data processing is completed. The Risograph starts the Master-making, followed by a proof print and the first print.


Firm_Ver.2.11
#970925_211B00
SC3000 Series
CPU: RISC Processor
MEMORY: SRAM 256 or 512KB / DRAM 4 or 8MB / FLASH 512KB / SIMM 16 or 32MB
HOST I/F: Parallel IEEE1284 Compatible
Serial RS422 / LocalTalk
3
4
6
PDL: RISORIPC
PRINTER: RISOGRAPH
RESOLUTION: .../300x300 / 300x400 / 400x400 / 600x600 / ... dpi
VIDEO I/F: Rev.4.xx / Rev.5.xx Autoswitching
RISO KAGAKU

(sc35testprint)

Resolutin setting: 400x400dpi

Important Notice:

>A model name SC3500 not shown on the Test Print.
It shows SC3000 series instead.
>The Test Page prints differently (Shift image, Different size of image) if you select different resolution settings such as 300x300dpi, 300x400dpi, 600x600dpi.
>The Test Print image may change without notice.

9. Technical Support

Be sure to fill and send this format when you need a technical support from us.

Technical Support Request Sheet(SC series)

Date		**Reference No.**	
Name of Company		**Person Name**	

SC series Computer Interface

Model Name		Firmware Version	
Serial Number		Printer Driver Version	
RAM size installed			

Risograph

Model Name		Serial Number	
System Rom Version		Panel Rom Version	
Total Counter		Master Counter	

Computer System

Hardware

	IBM-PC		Macintosh		Others

Model Name					
CPU		HDD		RAM	

Please mark which PC customer using →

Software

Operating System	
Application Software	
Font/size/style selected	

Interface port

	Parallel port		Serial port		Network/Others

Please mark which port customer using →

Others

Option connect with Risograph

	Sorter		SF3000		Key Card Counter		Others

Please mark which Risograph option customer connecting →

Description of Trouble(in detail)

Please put detailed informations such as; →

*Step by step customer operations
*Application software name and version(Language)
*What did customer try to print (TIFF file,Text file, etc.)
*Customer's computer system(in figure)
*Etc.

Print samples	**Yes . No**	**pages. enclosed**

RISO KAGAKU CORPORATION
(sctechsupport)

Technical Support Request Sheet(SC series)

Date		Reference No.	
Name of Company		Person Name	

SC series Computer Interface

Model Name		Firmware Version	
Serial Number		Printer Driver Version	
RAM size installed			

Risograph

Model Name		Serial Number	
System Rom Version		Panel Rom Version	
Total Counter		Master Counter	

Computer System

Hardware

	IBM-PC		Macintosh		Others

Model Name					
CPU		HDD		RAM	

Software

Operating System	
Application Software	
Font/size/style selected	

Interface port

	Parallel port		Serial port		Network/Others

Others

Option connect with Risograph

	Sorter		SF3000		Key Card Counter		Others

Description of Trouble(in detail)

Print samples	Yes . No	pages. enclosed

RISO KAGAKU CORPORATION